

7 Summary

Molecular differentiation and development of species specific primers for horse cestodes species *Anoplocephala perfoliata* and *Paranoplocephala mamillana*

Objective and intention of this thesis were the differentiation of Europe's most widely spread horse cestode species *Anoplocephala perfoliata* and *Paranoplocephala mamillana* by means of PCR and the development of new primers.

Based on proglottides of both cestode species, a sequence of the mitochondrial DNA was amplified by platyhelminthes specific cytochrome c oxidase subunit I primer (COI-primer).

After sequencing, discriminate primers were constructed based on the amplifications of both species.

For the most frequent horse cestode species, species specific primers could be synthesised (AP-primer and PM-primer).

In the tests run in this study, these primers attained an analytic specificity of 100 %.

By means of continuing dilution, the analytical sensitivity of both primer-pairs were determined. The *Anoplocephala perfoliata*-Primer (AP 72L/341R) showed a detection sensitivity of approximately 12,5 pg DNA and for the *Paranoplocephala mamillana*-Primer (PM 26L/346R) a detection sensitivity of approximately 1,65 pg DNA was determined.

The use of AP-primer and PM-primer allowed to furnish proof of cestode-DNA in faecal samples from experimental infected horses just once. The problems associated with our tests are discussed in this thesis.

Further tests are intended.